The Veritas identity & System Omega in the Λ-model.

System Omega $\boldsymbol{\omega} = \left[\frac{k}{m}\right]$ appears quite generally in Nature's Laws & familiar Physics identities & relationships.

The omega may be masked *historically* through variant essentially classical expressions yet can be discovered anew via '*trial by Algebra*'.

First we introduce a Platonik identity invented, discovered, or imagined by the Author and known as

the Veritas equation, given here.

$$1. \quad h - dd\,.\,\lambda \quad = \quad h\,.\,\lambda - dd$$

$$\mathbf{1.}\,\boldsymbol{a} \qquad \frac{\boldsymbol{h - dd\,.\,\lambda}}{\boldsymbol{h\,.\,\lambda - dd}} \quad = \mathbf{1}$$

$$[-\boldsymbol{dd}]\ \boldsymbol{means}\ '\boldsymbol{double}' - \boldsymbol{dot}\ \ \boldsymbol{or}\ \frac{\boldsymbol{d^2}}{\boldsymbol{dt^2}}, \qquad \boldsymbol{where}\ \ [-\boldsymbol{dot}]\ \boldsymbol{is\ likewise}\ \frac{\boldsymbol{d}}{\boldsymbol{dt}}$$

i.e. Newtonian dot notation is implied, albeit somewhat nuanced in a model parametrik sense, i.e. dots may *flow* freely under action of a system omega, and in this fluid or *fluxions* sense, a standard both-ways *time symmetry* is invoked. What is non-standard is that system time { **t** }**s** and system general force { **F** }**s** are synonymous, or actually identical with the system gamma **[γ]s**.
A model hypothesis is such that a ***'time is force'*** argument applies.

{ subscript [s] = 'system' as applied in the Lambda model} Also system Omega is negative system gamma, or

$$\mathbf{2.}\ \{\ \boldsymbol{\omega} \ = \ -\boldsymbol{ve\gamma}\ \}\boldsymbol{s}$$

$$Equation\ \mathbf{2.}\ is\ in\ effect\ \boldsymbol{N.3.L.\&\ Hooke's\ Law}\ [\boldsymbol{F} = -\boldsymbol{kx}], \qquad or\ \boldsymbol{Fs} = \{-\boldsymbol{ve\lambda\,.\,\lambda}\}\boldsymbol{s}$$

$$in\ this\ model, \qquad \mathbf{2.}\,\boldsymbol{a}. \quad [\boldsymbol{\omega}]\boldsymbol{s} = -\boldsymbol{ve}\ \{\boldsymbol{t}\}\boldsymbol{s}\ \ also.$$

$$We\ introduce\ \boldsymbol{System\ Omega}: \quad \mathbf{3.} \quad \left[\ \omega = \frac{mm}{\gamma^8}\ \right]s \quad = [\boldsymbol{\gamma}^{-\mathbf{3}}\ ]\boldsymbol{s}\ \ also\ equivalently$$

$$\mathbf{3.}\,\boldsymbol{a} \qquad \left[\boldsymbol{\omega} \ = \frac{\boldsymbol{k}}{\boldsymbol{m}}\right]\boldsymbol{s}$$

$$this\ is\ the\ simple\ version,\ and\ reflects\ a\ \ '\boldsymbol{wave - partikle}'\ \ \boldsymbol{mutuality}\ in\ this\ model.$$

$$Where\ [\boldsymbol{k}]\boldsymbol{s}\ is\ the\ wave\ number\ of\ the\ system,\ \ classically\ \left[\boldsymbol{k} \ = \frac{\mathbf{1}}{\lambda}\right]\boldsymbol{s}, thus$$

$$\mathbf{3.}\,\boldsymbol{b} \qquad \boldsymbol{\omega m\lambda} \ = \ \mathbf{1}$$

$$\&\ \ a\ \ model\ \ \boldsymbol{de\ Broglie}\ expression\ can\ be\ inferred$$

$$\mathbf{4} \qquad \boldsymbol{\lambda} \ = \ \boldsymbol{\omega m\gamma}$$

$$Where\ subscript\ [\boldsymbol{s}]\ is\ generally\ implied\ going\ forward\ e.g.\ \ *\ system\ lambda\ [\ \lambda] = [\lambda]s$$

$$note\ system\ gamma\ = \ system\ lambda\ squared, in\ modulus\ sense$$

$$\mathbf{5.} \qquad [\boldsymbol{\gamma}] \ = \ [\boldsymbol{\lambda}^{\mathbf{2}}]$$

$$and\ from\ \mathbf{3.}\ above\ [\boldsymbol{mm}]\ must\ be\ \boldsymbol{\gamma}^{\mathbf{5}}$$

$$or\ we\ get\ system\ mass\ [\boldsymbol{m}]\boldsymbol{s}$$

$$\mathbf{6.}\ \ [\boldsymbol{m}] = \ [\boldsymbol{\lambda}^{\mathbf{5}}]$$

$$We\ can\ see\ from\ previous\ identities\ that\ all\ parameters\ can\ be\ expressed\ in$$

$$lambda\ or\ [k] numbers\ of\ any\ physical\ system\ under\ inspection.$$

$$By\ physical\ we\ mean\ \boldsymbol{\lambda s}\ \neq \mathbf{0}, which\ implies\ also, \boldsymbol{m} \neq\ \mathbf{0}$$

$$Obviously\ the\ \boldsymbol{k} - number\ is\ the\ reciprocal\ lambda\ number, etc, or\ classically$$

$$\boldsymbol{k^n}\ =\ \mathbf{1}/\boldsymbol{\lambda^n}$$

$$So\ if\ lambda\ cubed\ (classically\ a\ volume\ V)\ yields\ energy,$$

$$we\ may\ call\ this\ \boldsymbol{m - dot}\ = \left[\frac{\boldsymbol{dm}}{\boldsymbol{dt}}\right] = \frac{\boldsymbol{m}}{\boldsymbol{\gamma}}$$

$$The\ reciprocal\ \boldsymbol{k} - number\ scenario\ would\ be\ inverse\ volume\ or\ \boldsymbol{k^3}, and\ we\ call\ that\ \boldsymbol{acceleration}$$

$$or, \quad \frac{\boldsymbol{d^2\lambda}}{\boldsymbol{dt^2}} = \boldsymbol{lambda - dd}\ =\ \boldsymbol{acceleration}\ [\boldsymbol{a}] = \boldsymbol{k^3} = \boldsymbol{k - dot}\ =\ [\boldsymbol{k}/\boldsymbol{\gamma}]$$

$$All\ identical\ we\ call\ this\ the\ \boldsymbol{gravity\ pixel}\ in\ the\ lambda\ model,$$

And further add that $[\boldsymbol{a}]$ is identical with ***negative mass***, or

$$[\boldsymbol{a}] = \ -\boldsymbol{ve\ m}\ =\ \ \boldsymbol{m - dddd}\ = \ \boldsymbol{m} - 4dots = \ \frac{\boldsymbol{m}}{\boldsymbol{\gamma^4}}\ = \frac{\boldsymbol{d^4[m]}}{\boldsymbol{dt^4}}$$

$$\boldsymbol{The\ negative\ operator\ is} \frac{\mathbf{1}}{\boldsymbol{gamma^4}}\ \boldsymbol{and\ adds\ a\ ½\ cycle\ clockwise\ rotation\ in\ the\ model}$$

$$w.r.t\ horizontal\ the\ standard\ r.h.s.datum * \ on\ a\ unit\ lambda\ complex\ wheel$$

$$Thus\ 2\ negative\ operators\ in\ tandem\ gives\ 1\ full\ c.w.rotation.$$

$$In\ essence\ system\ 'inertial\ mass'\ lies\ on\ \lambda^5\ \ a.c.w.\ \&\ -ve\ mass\ lies\ on\ lambda^{-3}\ c.w.phase\ sense *.$$

$$Mass\ having\ being\ divided\ by\ lambda^8\ \ here, \qquad as\ gamma\ =\ lambda^2, \qquad stated\ \ previously.$$

$$\boldsymbol{The\ model\ views\ inertial\ mass\ as\ Action, and\ \ -ve\ mass\ as\ reaction\ or\ \ -ve\ action.}$$

$$Or, \qquad \boldsymbol{Action} \qquad \mathbf{7}. \qquad \boldsymbol{\gamma.m - dot}\ =\ \boldsymbol{m},$$

$$\&\ \boldsymbol{-ve\ Action} \qquad \mathbf{8} \qquad \boldsymbol{-ve[\gamma.m - dot]}\ =\ \boldsymbol{-ve\ m}$$

$$can\ be \qquad \mathbf{8}.\boldsymbol{a}\ \ \boldsymbol{-ve\ mass}\ =\ [\ \boldsymbol{-ve\ gamma}\ .\ \boldsymbol{energy}\ \ \ (+)\ \ \ \boldsymbol{gamma}\ .\ \ \boldsymbol{-ve\ energy}\ ]$$

$$[2] states\ in\ omegik\ superposition$$

$$We\ note\ here\ that\ \ -ve\ energy\ is\ \left[\frac{lambda^3}{gamma^4}\right]\ = \left[\frac{\lambda^3}{\lambda^8}\right]\ = \frac{1}{\lambda^5} = k^5\ =\ 1/m\ reciprocal\ mass.$$

$$Which\ supplies\ a\ useful\ model\ standard\ \ utilising\ [-ve\ m - dot] = \frac{1}{m}\ \ \ thus$$

$$\mathbf{9}. \quad -ve\ [\ m\ .\ m - dot\ ]\ =\ 1$$

$$and\ equivalent\ \ to$$

$$Unity\ \ =\ [\ -ve\ mass.energy]\ \ (+)\ \ \ [-ve\ energy.mass] \qquad [2]\ states.$$

$With\ a\ little\ work\ most\ if\ not\ all\ of\ the\ previous\ identities\ can\ be\ morphed\ into\ \&\ flow\ thro\ each\ other,$

$and\ we\ quote\ some\ model\ standards\ with\ resonance\ to\ classical\ familiars.$

$from\ previous\ view\ w.r.t\ \ Action\ =\ m,\qquad -ve\ Action\ =\ -ve\ m\ =\ Reaction$

$The\ product\ of\ action\ x\ reation\ yields\ the\ Gamma\ `force'\ or\ N.2.L.\ \&\ U.L.G.$

$$10.\qquad \gamma\ =\ -m.m\qquad identical\ to\ F = ma$$

$And\ with\ a\ \ -ve\ \mathbf{Operator}\ appled\ to\ \mathbf{10}.we\ \ get\ omega$

$$11.\qquad \omega\ =\ -ve\,.-ve[m.m]$$

$$11.a\qquad \omega\ =\ [\ \{--m\,.\ m\}\ (+)\{\,-m\,.\ \ -m\}\ +\ \{m\,.-\ \ -m\}\ ]\qquad [3]\ -states$$

$as\ \ \mathbf{acc}\ =\ -ve\ mass\ \ then,\qquad -ve\ a\ =\ -ve\,.-ve\ mass$

$$-ve\ a\ =\ \left[\frac{m}{\gamma^8}\right]\ =\ \frac{\lambda^5}{\lambda^{16}}\ =\frac{1}{\lambda^{11}}\ =\ k^{11}$$

$$now\ \ k^{11}\ =\ S-dot\ =\ \frac{S}{\gamma}\ =\ \frac{dS}{dt}\qquad i.e.\ \ entropy-rate$$

$$thus\ \ entropy\ \ [S]\ =\ k^9\qquad \&\ \ a.c.w\ sense$$

$Thus\ we\ can\ produce\ another\ model\ omega\ expression$

$$11.b\qquad \omega\ =\ \ -ve\,.-ve\ [m.m]$$

$$thus\ \ 11.c\qquad \omega\ =\ [mS]-dot$$

$\&\ expanded\ to$

$$\omega\ =\ \{\ [\,m-dot\,.\ S\,]\ (+)\ \ [\,m\,.\ S-dot\,]\ \}$$

$$System\ Omega\ =\ [\{\ energy\ x\ entropy\ \ \leftrightarrow (+) \leftrightarrow\ \ mass\ \ x\ \ entropy\ rate\ \}]$$

$this\ last\ can\ help\ with\ darkness\ paradigms\ currently\ in\ vogue\ in\ Physik.$

$The\ model\ views\ energy\ in\ the\ classical\ way, say\ in\ conventional$

$Newtonian, Hamiltonian\ or\ Lagrangian\ sense, i.e.$

$these\ express\ any\ \ dynamic\ system\ of\ kinetic\ \&\ potential\ energy\ states\ in\ mutual\ fluxion/s.$

$This\ is\ m-dot\ in\ a\ general\ model\ sense,\qquad where\ the\ [-dot] operator\ is\ frequency,\qquad f\ = 1/t$

$thus\ the\ model\ contends,$

$$12.\quad [\lambda-dot]^2\ =\ \ [\lambda.\lambda-dd]\ \ is\ likewise\ a\ frequency\ or\ [\frac{1}{\gamma}] expression.$$

as *lambda-dot is a k-number*, this is classically a velocity expression

Where $\lambda-dot\ =\ \left[\frac{\lambda}{\gamma}\right]\ =\ \left[\frac{dx}{dt}\right]\ =\ v, as\ lambda\ can\ be\ \{x\} of\ course.$

So we may derive a grounding in 12. for *Fitzgerald - Lorentzian* effects, such as length contraction etc,

$$\boldsymbol{A\ model\ maxim\ is\ developed.}$$

$$\boldsymbol{Large\ Lambda\ schemes\ have\ low\ magnitude\ \ k - numbers, and\ thus\ very\ small\ acceleration\ number.}$$

$$\boldsymbol{Conversely\ very\ small\ lambda\ schemes\ have\ very\ large\ magnitude\ \ k - number\ \&\ thus\ very\ large\ acceleration.}$$

$$\boldsymbol{We\ can\ further\ add}$$

$$\boldsymbol{large\ schemes\ possess\ low\ magnitude\ entropy\ \ [S]\ \&\ \ very\ low\ entropy\ rate\ [S] - dot, respectively.}$$

$$\boldsymbol{Conversely\ large\ magnitude\ [S]\ \&\ even\ higher\ for\ \ [\frac{dS}{dt}], are\ experienced\ in\ micro - lambda\ schemes.}$$

A *fearful symmetry* seems apparent at Cosmological & quantum scales in Nature.

$$\boldsymbol{This\ maxim\ is\ counter\ to\ the\ standard\ view\ that\ the\ twain\ never\ meets\ in\ Quantum\ \&\ Classical\ /Relativistic\ models, thus\ the\ 'idee\ fixee'\ developed\ that, we\ absolutely\ must!\ \ find\ a\ holy\ grail\ solution}$$

$$\boldsymbol{such\ as\ quantum\ gravity\ to\ fix\ the\ disparity.}$$

$$\boldsymbol{This\ is\ potentially\ a\ phenomenological\ perspective\ only, largely\ historical\ in\ basis,}$$

$$\boldsymbol{\&\ erroneous\ one\ might\ strongly\ suspect.}$$

$$\boldsymbol{Physical\ lambda\ model\ adherents\ maintain\ that\ it\ is\ mistaken\ to\ mean}$$

$$\boldsymbol{fundamentally\ different\ physics\ is\ at\ work\ here.}$$

$$\boldsymbol{In\ the\ \lambda - model, scale\ is\ invariant\ and\ model\ Physik\ rules\ are\ quite\ general, regardless\ of\ size,}$$

$$\boldsymbol{for\ any\ particular\ scheme/s\ under\ investigation.}$$

$$\boldsymbol{Let's\ look\ at\ some\ examples:}$$

$$\boldsymbol{Keplers\ 3rd\ Law\qquad \frac{R^3}{T^2}\ =\ constant\ [k]}$$

$$\boldsymbol{Or\ in\ model\ terms,\qquad R\ =\ \{r\}\ =\ \{x\}\ =\ [\lambda]\ or\ system\ lambda, thus}$$

$$\boldsymbol{\frac{\lambda^3}{\gamma^2}\quad =\quad \frac{energy}{momentum}\quad =\quad \frac{m - dot}{p}}$$

$$\boldsymbol{=\quad \frac{m - dot}{\gamma^2}}$$

$$\boldsymbol{=\quad \frac{m}{\gamma^3}}$$

$$\boldsymbol{=\ \omega m}$$

$$\boldsymbol{\&\ as\ product\quad [\omega.mass]\ \ equates\ to\ a\ \ system\ \ [k] - number}$$

$$\boldsymbol{i.e.\quad wm\ =\ k,\qquad Keplers\ costant\ is\ the\ k - no\ of\ our\ local\ Binary\ System\ or\ Newtonian\ G}$$

$$\textit{This allows us to gauge Solar scheme Omega at the Earth remove.}$$

$$\textit{We use o.o.m. calculations and no units, or we end up with dimensionless ratios on occasion}$$

$$\textit{otherwise the S.I. relevant unit or units are always implied.}$$

$Let \quad M = 10^{30}, \;\; m = 10^{25},$

$\& \;\; let\ system\ mass\ [m]s = binary\ product\ [Mm], \quad law\ of\ lever\ resonance.$

$and\ as\ the\ de\ Broglie\ yardstick\ is\ \lambda s = 10^{11}$

$$Then\ System\ Omega, gives, \qquad \omega = \frac{k}{m}$$

$$= \frac{1}{[m.\lambda]} = \frac{1}{[10^{55}.10^{11}]}$$

$$= 10^{-66}.$$

$$And\ as\ Omega = a^2\ then\ our\ local\ system\ acc\ pixel\ -ve\ mass = \sqrt{[10^{-66}]}$$

$$= -ve\ m = [a] = modulus\ circa\ [\ h]\ the\ \ Planck\ unit\ of\ Action,$$

$$we\ see\ it\ as\ -ve\ action\ of\ course.$$

Dirac's relativistic electron eqn rendered into the model

$$m\{\psi\} = i.\gamma\frac{d[\psi]}{dx}$$

$$in\ 1-d\ here\ say, \qquad thus\frac{d}{dx} = \frac{d}{d\lambda} = \frac{1}{\lambda}\ (approx.) = [k]s$$

$$in\ our\ model\ imaginary\ \{i\}\ is\ equivalent\ to\ system\ momentum\ , thus$$

$$\{i\} = p = gamma^2 = lambda^4 = \sqrt{[m.m-dot]} = \surd(-1)$$

$$also, we\ can\ cancel\ Psi\ both\ sides, for\ clarity, i.e.the\ pared\ down\ model\ Dirac, now\ gives$$

$$m = k/\omega$$

Schrodinger

$$ih-bar\ d\{\psi]/dt = H\{\psi\}$$

$$let\ i = p\ as\ before, \qquad \&\ d/dt = -dot = \frac{1}{\gamma}$$

$$\&\ as\ \ h-bar = \left\{\frac{h}{2\pi}\right\}, \qquad we\ ignore\ factor\ [2]as\ indicating\ perhaps\ \ 2-states.$$

$$We\ get, \qquad \{i-h-bar\}-dot = energy \quad or,$$

$$[\ \{i-dot.[h-bar]\} \quad (+) \quad \{i.\ [h-bar]-dot\}\ ] = m-dot,$$

$$where\ we\ allow\ for\ a\ possibility\ of\ +ve/-ve\ energy\ on\ r.h.s.$$

$$Firstly,\ \ h-bar = -ve\frac{mass}{(2)\pi}$$

$$= -mp\ , \qquad\qquad as\ 1/\pi = p$$

$$= ap = k^3.\lambda^4 = \lambda\ \ in\ this\ case$$

$$then\ \{\ i.h-bar\}-dot \quad gives,$$

$$[p.\lambda]-dot = [\ \{p-dot.\lambda\} \quad (+) \quad \{p.\ \lambda-dot\}\ ]s$$

$$or\ [2]\ states \quad [\{p.k\} + \{\gamma.\lambda\}] = energy = modulus\left[\ lambda^3\ \right]$$

$$Now \quad +ve\ energy = reciprocal\ acceleration\ (gravity) \quad or, \qquad a.e = Unity$$

$$\&\ if\ we\ plumb\ for\ \ -ve\ energy, that\ is\ identical\ to\ inverse\ mass.$$

$$So\ we\ see\ in\ the\ generalized\ T.D.S.E,$$

$$we\ have\ a\ very\ full\ exposition\ of\ the\ scheme, in\ either\ \&\ both,$$

$$a\ dynamic\ Superposition\ of\ [2]states$$

$$-ve[\ mass\ .\ \ energy] = Unity, \qquad identically\ [acceleration\ x\ energy]$$

$$\&/or$$

$$[mass\ .-ve\ energy] = Unity = [m/m]$$

$$A\ system\ incorporating +\ ve\ \ \&\ \ -ve\ aspects\ of\ mass, energy,$$

$$\&\ \ gravity\ at\ face\ value\ and\ the\ system\ Omega\ within.$$

Maxwell & Faraday.

$$-\frac{dB}{dt} = \nabla\, X\, E$$

$$We\ state\ some\ assumptions, \quad the\ minus\ sign\ here\ (-)\ is\ model\ -ve\ Operator$$

$$B\ can\ be\ [m.\gamma] = lambda^7\ unity\ wheel * peg\ coincident\ with\ both\ moment\ of\ inertia\ [\,I],$$
$$and\ also\ [S] = k^9, but\ we\ go\ with\ the\ former\ case\ here$$

$$so, \quad \frac{dB}{dt} = \frac{[m.\gamma]}{\gamma} = m$$

$$Likewise, \quad -ve\frac{dB}{dt} = -ve\ mass = [a]$$

$$\{t\} = [\,\gamma]s \quad , \quad \nabla = Del = \frac{d}{dx}\ in\ 1-d, and\ thus = [k]s$$

$$E = -ve\ frequency, \quad and/or - ve.-ve[m.\lambda]s\ identically = -ve\left[energy^2\right]\ thus\ E\ yields\ 1/mm$$

$$\&\ finally\ the\ classical\ [X]\ vector\ product, \quad is\ also = -ve\ Operator = \frac{1}{\gamma^4}$$

$$we\ get,$$

$$a = del\ X\ E$$

$$= k\,.-ve\frac{1}{mm}$$

$$= -\frac{vek}{mm}$$

$$= \frac{S}{mm}$$

$$= k^9.k^{10} = k^{19}$$

$$Now\ k^{19}\ is\ coincident\ with\ the\ 'peg'\ \left[\,k^3\right] = [a]$$

$$on\ the\ familiar\ unit - \lambda\ complex\ wheel$$

$$after\ 1\ full\ c.w.rotation\ by\ k^{16}, thus$$

$$-ve\ mass = a$$

Note: The model uses a *Unity lambda complex wheel with `16 *pegs* set apart at intervals of [π/8]

The general lambda [λs]

System Lambda = $\left[\lambda.e^{i.\frac{\pi}{8}}\ \right]^n$ **n = +/- { 0,1,2,3,}**

$$+ve\ integers\ yield\ \lambda^n\ and\ -ve\ integers\ k^n$$

these, cycle in acw & cw sense rotation, respectively.

Maxwell cont.

Similarly on the unity wheel, we see [B] & [S] *share a coincident peg*,

therefore is [B] a micro lambda

***phenomenon* label for entropy [S], and of course visa versa?**

Say $\boldsymbol{\omega} = \left[\frac{\boldsymbol{mS}}{\boldsymbol{\gamma}}\right] = \left[\frac{\boldsymbol{mB}}{\boldsymbol{\gamma}}\right]$

$= [\boldsymbol{mS}] - \boldsymbol{dot} = \boldsymbol{m} - \boldsymbol{dot}.\boldsymbol{S}\ (+)\ \boldsymbol{m}.\boldsymbol{S} - \boldsymbol{dot}$ **&/or**

= [mB]-dot = [{m-dot. B ↔(+)↔ m. B-dot}]

$$\boldsymbol{Then}\quad \frac{\boldsymbol{w}}{\boldsymbol{m}} = \boldsymbol{B} - \boldsymbol{dot} = \frac{\boldsymbol{k}}{\boldsymbol{mm}} = \boldsymbol{k}.\boldsymbol{E}$$

$$\boldsymbol{Thus\ we\ derive\ a\ familiar},\quad \boldsymbol{E} = \boldsymbol{cB}\quad \boldsymbol{can\ be\ found}$$

$$\boldsymbol{B} = \boldsymbol{E}.\boldsymbol{k\gamma} = \boldsymbol{E}.\boldsymbol{\lambda}\quad \boldsymbol{thus}$$

$\boldsymbol{E} = \boldsymbol{kB} = \boldsymbol{cB}\ \&\,\boldsymbol{now}\ \boldsymbol{cS} = \boldsymbol{kS} = \boldsymbol{E} = \boldsymbol{k^{10}}$ **and from**

w/m = B-dot

[-m.-m]/ m = dB/dt then,

$-\boldsymbol{m} = -\boldsymbol{dB}/\boldsymbol{dt} = [\boldsymbol{a}]$, **etc**

w.r.t to generic Platonik identities in the model there are many 2nd order equations or identities which allow for resonance with Classical ideas.

Generally any sensible *dummy parameter* [$]

+ve /-ve will do to emulate $\boldsymbol{\gamma}.[\$] - \boldsymbol{dot} = [\$]$ **examples,**

$$[\$] = \{\ \boldsymbol{mass},\quad \boldsymbol{lambda},\quad \boldsymbol{Hooke}\,[\boldsymbol{K}],\ \ \boldsymbol{entropy}\,,\quad \boldsymbol{etc}$$

$$\boldsymbol{Which\ aligns\ well\ with\ another\ 2nd\ order\ type}$$

$$[[\$] - \boldsymbol{dot^2} = [\$]\,.\,[\$ - \boldsymbol{dd}]$$

$$\boldsymbol{and\ some\ notable\ examples\ are\ again\ lambda}, \boldsymbol{mass}, \boldsymbol{entropy}, \boldsymbol{omega}, \&\ \boldsymbol{gamma}, \boldsymbol{etc\ etc}$$

Thus we may look at the System *gravity pixellation* from an array of

entropy or [B]-field and -ve mass or gravity *angle*,

aligning with some modern paradigms i.e. '*emergence phenomenon'*

linking perhaps,

system rate of entropy with -ve gravity, which is also, -ve.-ve mass.

Maxwell cont.

We'll approach it differently here, allowing a 2nd order gamma differential or double dot [-dd]

Acting on Maxwell's equations.

$$-\frac{d^2B}{dt^2} = \nabla X \frac{dE}{dt}$$

in model terms, $dE/dt = E - dot = 1/[mm\gamma]s = k^{12} = \omega^2$

so we get

$[-vem]/\gamma = -\omega^2.k$ **now transpose the gamma**

$-ve\ mass = -ve\omega^2.[\gamma k],$

yields the familiar s.h.m. expression

$$-\omega^2.\lambda = a$$

Lorentz Force equation

F = q [E + v X B]

There are many routes through this to yield [+ve &/or-ve] *force*

i.e. [F] gives *gamma or omega* respectively.

The standard assumptions apply,

say charge = +ve or -ve, or +q, -q

Charge in this model is [m.k] gives [q] = λ^4 **or [p] perhaps,**

& -ve[mk] = [-q] = k^4 **or [π] perhaps**

E = 1/mm = k^{10}

B = [mγ] = λ^7 **or could be [S] =** k^9

We can say [X] product is -ve Operator or a standard multiplier {x}

Velocity [v] can be [c] &/or system k, of course.

Fun can be had & we get several reasonable results for variant input

& some feel,… *more natural than others*

The Hamiltonian

(1) dq/dt = +ve ∂H/∂p
(2) -ve dp/dt = ∂H/∂q

$$I'm\ allowing\ previous\ statements\ of\ wide\ latitude\ applies\ to\ the\ formalism$$

$$i.e. I\ often\ make\ no\ distinction\ between\ partial\ [\partial]\ \&\ [d],$$

$$and\ indeed\ freely\ cancel\ these\ on\ most\ occasions.$$

$$Generally\ the\ Hamiltonian\ is\ relaxed\ to$$

$$[H] = composite\ 'system\ 'energy = m - dot = \frac{dm}{dt}.etc$$

[q = lambda], [p = model momentum], [t = gamma], etc

Thus, we get

(1.a) k = ωm

(2.a) γ = -ve [m-dot].k

And as system gamma force = [m.k]-dot = m-dot.k (+) m.k-dot

And we can say l.h.s. gamma in (2.a) = omega, from ω = -ve[γ] and general commutativity

w.r.t. the minus sign, i.e. classically this can transpose across the equality,etc.

Note: The model sees an easier way than previous example, whereby we suggest, very respectfully, that a -ve sign may be missing on l.h.s. of conventional Hamiltonian [2],

but we can largely bypass that by rewriting Hamiltonian 1 in model terms

$$H1: \quad \lambda - dot = \frac{m-dot}{p} \qquad k = \frac{energy}{momentum} = \pi.[m - dot] = [\frac{m}{\gamma^3}]$$

then simply post a -ve sign on both sides of H1 to give,

$$H2: \quad -ve\ \lambda - dot = \frac{-ve\ m-dot}{p}$$

Applying the model mode, we get

H1: k = ωm

as before, & H2: gives [-ve k]= [-ve energy/ momentum] , or

$$H2: \quad S = -ve[\omega.m]$$

$$S = [\{-ve\omega\,.m\} \leftrightarrow (+) \leftrightarrow \{\omega. -ve\ m\}]$$

or an entropy expression, where alternatively we could say, Hooke's constant is differentiated once w.r.t. gamma,

$$[dK/dt] = K/\gamma = K - dot = [k^7/\gamma] = S$$

$S = k^9$ ***c.w. 'peg'***

Of course this begs the Q? why not differentiate model Hamiltonians once again or more

$* H1: \quad \lambda - dd = \frac{m-dd}{p}$ ***gives [a] = -ve mass***

$* H2: \quad -ve\lambda - dd = \frac{-ve\, m-dd}{p}$ ***gives -ve[a] = dS/dt***

Nothing very extraordinary here as we could emulate these new model entries by a minor variant on Hamilton's originals, say for H1 alone, we could say.

H1.a: $\frac{\partial H}{\partial t} \cdot \frac{\partial t}{\partial p} = \frac{dq}{dt}$ $\quad allowing \ \frac{dH}{dp} = \frac{dq}{dt}$

$Or\ simplified\ to\ \frac{H}{p} = \frac{\lambda}{t} \quad or,\ H.t = p.\lambda$

$that\ gives,\ \gamma.m - dot = mass \quad of\ course., as\ [p] = \lambda^4$

H1.a: is identical to/& could also be, a la mode

$\gamma - dot.\frac{\partial H}{dp} = q - dot$ $\quad allowing\ [\,e/p\,] = k,\ \&\ \ energy = pk = [pc]$ ***familiar***

$\&\ [e.\lambda] = p$

And something similar but also inclusive of the -ve Operator <u>both sides</u>
for remodelled H2, where we said H2 = -ve H1

$-ve\left[\gamma - dot.\frac{\partial H}{dp}\right] = -ve\ [q - dot]$ ***allowing [-ve energy /p] = -ve lambda***

$and\ as - ve\ energy = reciprocal\ mass\ , and - ve\ lambda = Hooke\ [K], we\ get$

$1/mp = K - dot$

$[K]$ ***is Hooke's constant, or reciprocal Moment of Inertia*** $[1/\,I]$

Then another Unity identity is found $m.p.K = 1$

Now $[m.K]$ ***= [*** $lambda^5\ .Lambda^{-7}$ ***] =*** $1/lambda^2$ ***= frequency, f = 1/gamma***

Thus $1 = pf = p - dot = p/\gamma = [dp/dt] = \gamma^2/\gamma$

gives system gamma $[\gamma]s = [F] = \{t\}$***, in this scheme.***

Einstein, Planck, De Broglie & Heisenberg, et al

S.R. & E = mc^2

$$becomes\ energy = m - dot = mass\,.\,frequency$$

$$E = m.k^2$$

The model invokes a direct constant of proportionality for the mass energy equivalence

$$12. \qquad \gamma.m - dot = m$$

Which is a simple derivative from the system energy e = [mass/gamma] = [dm/dt]

Or the Action principle, as seen in Heisenberg's pared back Uncertainty Principle

Featuring energy & time in product, where he employs [h] as the mimimun of action,

E.t = $\geq h$***, & also used in Δp.Δx*** $\geq h$

Which can be pared back to yield Louis de Broglies wave hypothesis

λ = h/p

the $model\ explicitly\ allows\ for\ -ve\ mass = [h]\ thus\ we\ have\ [2]\ de\ Broglies$

1. $\quad m = p.\lambda$

$$= +ve\ mass = momentum\ x\ lambda = lambda^5, \quad locally\ [Mm]$$

2. $\quad -ve\ m = -ve[p.\lambda] = [\ \{-vep\,.\lambda \leftrightarrow (+) \leftrightarrow p.-ve\ \lambda\}\ ]$

$$= lambda^{-3}, \quad locally\ -ve\ [Mm] = [h]$$

$2.\ gives \quad a = \pi.\lambda, \quad (+)\ p.K \quad where\ p = \lambda^4,\ \&\ K = k^7 = Hooke's\ constant.$

$As\ we\ introduced\ de\ Broglie\ here, we\ see\ the\ \boldsymbol{Photo-electric\ effect}\ \ and\ the\ \boldsymbol{Einstein - Planck}\ relationship\ has\ similarly\ modelled\ omega\ attributes.$

$$\boldsymbol{E}\ =\ \boldsymbol{h.\nu}\quad can\ posess\ (+ve/-ve)\ flavours,$$

$$-\boldsymbol{ve}E\ =\ -ve\ [mass\ .frequency] =\ -ve\ m-dot$$

$$\&\ +\boldsymbol{ve}\ E\ =\ m-dot$$

$$The\ combination\ can\ yield\ up\ model\ identity$$

$$-\boldsymbol{ve}[\boldsymbol{mass.energy}] =\ \boldsymbol{1}$$
$$\boldsymbol{thus}$$
$$[\boldsymbol{mass.energy}] =\ -\boldsymbol{ve}\ \boldsymbol{1}$$

$$\boldsymbol{Unity} =\ \lambda^{\mathbf{0}}\ \&\ \{\boldsymbol{n}\}\boldsymbol{x}\ \mathbf{2}\pi\ \boldsymbol{repeats\ to}\ \lambda^{\mathbf{16}} = \{\mathbf{2}\}\boldsymbol{\pi}, [\boldsymbol{a.c.w.}], \boldsymbol{etc}$$

$$\boldsymbol{And}\ -\boldsymbol{ve}\ \mathbf{1}\ =\ \boldsymbol{\lambda^{8}}\ \&\ \{\boldsymbol{n}\}\ \boldsymbol{x}\ \mathbf{2}\boldsymbol{\pi}\ \boldsymbol{repeats\ to}\ \boldsymbol{\lambda^{24}}, [\boldsymbol{c.w.}], \boldsymbol{etc}$$

$$\boldsymbol{Where}\ +\frac{\boldsymbol{ve}}{-\boldsymbol{ve}}\mathbf{1}\ \boldsymbol{can\ be\ fashioned\ by\ various\ periodic}\ \{\boldsymbol{k^{n}}\}\ \boldsymbol{of\ course\ also, with}\ \frac{\mathbf{1}}{\mathbf{2}\boldsymbol{\pi}}\ [\boldsymbol{c.w.}]\ \boldsymbol{sense\ application}.$$

$$w.r.t.the\ Photo-electric\ effect\ kinetic\ \boldsymbol{E}\ =\ \boldsymbol{h.\nu} - \emptyset$$

$we\ see, that\ the\ \boldsymbol{work\ function\ Phi}, can\ be\ seen\ as\ the\ need\ to\ overcome\ the\ -\boldsymbol{ve}\ \text{‘}binding\text{’}\ energy\ perhaps, and\ in\ any\ case\ it\ is\ a\ re-working\ of\ the\ previously\ stated\ model\ identity..$

The equivalence principle & G.R.

The model says -ve mass = a = gravity or 'curvature-geometry'

Thus $a = k^3 = k - dot$ *= 1/e, and 'geometrically = reciprocal Volume'*

Now looking at

$$G\mu v = 8\pi G\, T\mu v$$

$$My\ assumptions\ are, \quad G\mu v\ yields\ \text{'}gravity\text{'}\ [a]$$

$$T\mu v\ is\ density\ Rho \quad = \frac{mass}{Volume}\ or\ Boylesque\ gamma$$

$$Ignore\ factor\ [8]\ as\ states, or\ some\ such, \quad G = k - number, \quad pi = 1/p = k^4 = 1/\gamma^2$$

$$then\ we\ get$$

$$Gravity = \pi.k.\rho$$

= [k.ρ]-dd

= [k-dd.ρ] (+) [k-dot.ρ-dot] (+) [k.ρ-dd]

= [ρ/m] + [a.1] + [k.f] 3 states

The 2nd & 3rd term are a , & equivalent k-dot respectively

The 1st is equivalent to Υ/m = 1/energy

Thus we retrieve [-m.m-dot] = 1

w.r.t. Boyle's Law, PV = constant

can be, γ-dot. m-dot = 1. Energy

or energy is the constant, gamma is the density, & pressure P = F/A = [γ/γ] = γ-dot = 1, & energy = λ^3 *= Volume*

Hooke also deserves a mention as alike Kepler, he perhaps unwittingly pointed towards the model identity

[-ve F = Omega]s with Hooke's law in 1660.

$$Nullius\ in\ verba.$$

There are multiple more examples I suggest, but hats off to Kepler in particular,

not to mention Tycho, & Kopernik, Galileo' eppur si muove' & with certainty, Bruno the Martyred one, had a stake also.

It seems a grand synthesis is in prospect, and lo! $\text{'}All\ Religions\ are\ 1\text{'}. [W.Blake]$

& now these three remain.

$$\mathbf{1.c} \quad [\ \{h - dd.\lambda\} \quad \leftrightarrow (+) \leftrightarrow \quad \{h - dot.\lambda - dot\} \quad \leftrightarrow (+) \leftrightarrow \quad \{h.\lambda - dd\}\ ]$$